



## Complete Summary

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### GUIDELINE TITLE

Syphilis.

### BIBLIOGRAPHIC SOURCE(S)

Reunala T. Syphilis. In: EBM Guidelines. Evidence-Based Medicine [CD-ROM]. Helsinki, Finland: Duodecim Medical Publications Ltd.; 2004 Jun 19 [various]. [9 references]

### GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Finnish Medical Society Duodecim. Syphilis. Helsinki, Finland: Duodecim Medical Publications Ltd.; 2001 Nov 22. Various p.

## COMPLETE SUMMARY CONTENT

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## SCOPE

### DISEASE/CONDITION(S)

Syphilis, including:

- primary, secondary, and latent syphilis
- Neurosyphilis
- Syphilis in pregnancy
- Congenital syphilis (prevention)
- Neonatal syphilis (diagnosis)

### GUIDELINE CATEGORY

Diagnosis  
Management  
Prevention  
Treatment

#### CLINICAL SPECIALTY

Family Practice  
Internal Medicine  
Obstetrics and Gynecology  
Pediatrics

#### INTENDED USERS

Health Care Providers  
Physicians

#### GUIDELINE OBJECTIVE(S)

Evidence-Based Medicine Guidelines collect, summarize, and update the core clinical knowledge essential in general practice. The guidelines also describe the scientific evidence underlying the given recommendations.

#### TARGET POPULATION

Patients with suspected or confirmed syphilis and patients exposed to syphilis

#### INTERVENTIONS AND PRACTICES CONSIDERED

##### Diagnosis

1. Assessment of history of exposure and signs and symptoms of syphilis
2. Microscopic assessment of lesion discharge for spirochetes
3. Serologic testing (cardiolipin test, Treponema pallidum haemagglutination test [TPHA], fluorescent treponemal antibody absorption [FTA-abs] test as indicated for special cases)
4. Gene amplification methods for screening

##### Management/Treatment/Prevention

1. Penicillin for the treatment of primary, secondary and latent syphilis, neurosyphilis, and syphilis in pregnancy, and the prevention of congenital syphilis
2. Ceftriaxone and doxycycline as alternatives for patients who are allergic to penicillin
3. After completion of antibiotic treatment, follow-up testing with the cardiolipin and Treponema pallidum haemagglutination tests at specified intervals
4. Identification and screening of partners with cardiolipin test

#### MAJOR OUTCOMES CONSIDERED

- Accuracy of diagnostic tests
- Incidence of congenital syphilis
- Rate of referral of sex partners
- Signs and symptoms of syphilis
- Syphilis serology titers

## METHODOLOGY

### METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)  
 Hand-searches of Published Literature (Secondary Sources)  
 Searches of Electronic Databases

### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The evidence reviewed was collected from the Cochrane database of systematic reviews and the Database of Abstracts of Reviews of Effectiveness (DARE). In addition, the Cochrane Library and medical journals were searched specifically for original publications.

### NUMBER OF SOURCE DOCUMENTS

Not stated

### METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

### RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

- Strong research-based evidence. Multiple relevant, high-quality scientific studies with homogeneous results.
- Moderate research-based evidence. At least one relevant, high-quality study or multiple adequate studies.
- Limited research-based evidence. At least one adequate scientific study.
- No research-based evidence. Expert panel evaluation of other information.

### METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

### DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

### METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

#### RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

#### COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

#### METHOD OF GUIDELINE VALIDATION

Peer Review

#### DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

### RECOMMENDATIONS

#### MAJOR RECOMMENDATIONS

The levels of evidence [A-D] supporting the recommendations are defined at the end of the "Major Recommendations" field.

##### Aims

- Suspected syphilis should be verified with the appropriate clinical and serological tests and the patient should be treated with the most efficient antibiotics.
- Syphilis is a dangerous infectious disease that should be prevented and treated effectively.

##### Aetiology and Transmission

- The pathogen is the spirochete *Treponema pallidum*.
- Easily transmitted by sexual intercourse and also from the mother to the foetus.
- Contagiousness is highest (30–60%) in the primary and secondary phases. After 2 years, the patient ceases to spread the disease.

##### Clinical Picture

- Asymptomatic incubation period lasts for 3 to 4 weeks after which two thirds of the patients (not all) have visible symptoms
  1. Primary symptoms (local infection)
    - An ulcer, the "primary lesion," with a clean, hard base appears in the genital region, sometimes also in anus or the oral region.
    - There is local lymphadenopathy without tenderness.

2. Secondary stage 6 to 8 weeks after exposure (general infection).
  - General symptoms include indisposition, fever, and enlarged lymph nodes.
  - Roseola eczema resembles widely spread viral eczema or drug eruption.
    - Syphilids (i.e., formations of papules) are found in the hands and feet or spread all over the body. May be large, cauliflower-like formations (condylomata latum) around the anus or necrotic in patients with a poor immune response (e.g. human immunodeficiency virus [HIV])
  - Alopecia syphilitica, typical "moth-eaten" spotty baldness in some patients
3. Late symptoms occur in about one third of untreated patients in 10 to 30 years. The most important are neurological (atypical psychosis, paralytic dementia) and vascular symptoms (aortic aneurysm, valvular regurgitation).

### Differential Diagnosis

- Primary syphilis
  - Genital herpes. Incubation time is short in primary infection, lesions occur in groups, and they are painful. Lymphadenopathy is less pronounced; however, the nodes are tender.
  - Ulcus molle (soft chancre)
  - Infected coital or other traumas
- Secondary syphilis
  - Roseola may resemble pityriasis rosea, drug eruption, measles (rubeola), German measles (rubella), or scarlet fever (scarlatina).
  - Syphilids may resemble papular lichen ruber planus, psoriasis, scabies, or infectious eczema of the feet (e.g., tinea). Condyloma latum may resemble condyloma acuminatum.

### Diagnosis

1. History of exposure (unprotected sex) and/or clinical picture.
2. Plain specimen. A dark field microscope may reveal spirochetes in lesion discharge and confirm the diagnosis.
3. Serology
  - The cardiolipin test becomes positive 3 to 4 weeks after infection. It is the primary test for screening. High titres (>16) are almost always specific. A low titre is in many cases a false positive result (pregnancy, connective tissue disease, infection) or a serological scar of an earlier treated infection or latent syphilis.
  - Treponema pallidum haemagglutination test (TPHA) is the test of choice for verifying syphilis. The result becomes positive slightly later than that of the cardiolipin test, but it is specific (almost 100%) and suitable for following up response to treatment.
  - Fluorescent treponemal antibody absorption test (FTA-abs) is a specific syphilis test used in special cases (neurosyphilis, suspicion of neonatal syphilis) as it detects also immunoglobulin M (IgM) antibodies.
  - Gene amplification methods are already being used for screening.

## Treatment

- Procaine penicillin 1.2 million IU x 1 intramuscular (i.m.) for 10 days (primary and secondary syphilis; in latent syphilis treatment is received for three weeks), in neurosyphilis intravenous (i.v.) penicillin.
- For patients allergic to penicillin, the alternatives are doxycycline (200 mg/day for 15 days) or ceftriaxone injection (1 g/day).

## Follow-up and Identification of Partners

- After antibiotic therapy the cardiolipin and treponema pallidum haemagglutination tests are performed at 3 and 6 months and one year. In primary stage infection, the tests become negative in most cases; in other recent infections the titre falls by at least two dilutions when the treatment has been successful.
- All sexual partners who have been exposed to infection should be screened with the cardiolipin test. If the result is negative, the test should be repeated after 3 months.

## Related Evidence

- Patient assistance at facilitating patient referral and provider referral may increase partner notification for sexually transmitted diseases (Oxman et al., 1994; DARE, 1999) [C].
- Penicillin is effective in the treatment of syphilis in pregnancy and in the prevention of congenital syphilis (Walker, 2002) [B].

## Definitions:

### Levels of Evidence

- A. Strong research-based evidence. Multiple relevant, high-quality scientific studies with homogeneous results.
- B. Moderate research-based evidence. At least one relevant, high-quality study or multiple adequate studies.
- C. Limited research-based evidence. At least one adequate scientific study.
- D. No research-based evidence. Expert panel evaluation of other information.

### CLINICAL ALGORITHM(S)

None provided

## EVIDENCE SUPPORTING THE RECOMMENDATIONS

### REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

Concise summaries of scientific evidence attached to the individual guidelines are the unique feature of the Evidence-Based Medicine Guidelines. The evidence summaries allow the clinician to judge how well-founded the treatment recommendations are. The type of supporting evidence is identified and graded for select recommendations (see the "Major Recommendations" field).

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

- Appropriate use of clinical and serological tests for the verification of suspected syphilis
- Effective prevention and treatment of syphilis

### POTENTIAL HARMS

The cardiolipin test (the primary test for screening) may result in false positive results.

Subgroups Most Likely to Be Harmed:

A false positive cardiolipin test is more likely to occur in women who are pregnant and patients with connective tissue disease, infection, a serological scar of an earlier treated infection, or latent syphilis.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Getting Better  
Staying Healthy

### IOM DOMAIN

Effectiveness  
Patient-centeredness

## IDENTIFYING INFORMATION AND AVAILABILITY

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#### ADAPTATION

Not applicable: The guideline was not adapted from another source.

#### DATE RELEASED

2001 Nov 22 (revised 2004 Jun 19)

#### GUIDELINE DEVELOPER(S)

Finnish Medical Society Duodecim - Professional Association

#### SOURCE(S) OF FUNDING

Finnish Medical Society Duodecim

#### GUIDELINE COMMITTEE

Editorial Team of EBM Guidelines

#### COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Primary Author: Timo Reunala

#### FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

#### GUIDELINE STATUS

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#### GUIDELINE AVAILABILITY

This guideline is included in a CD-ROM titled "EBM Guidelines. Evidence-Based Medicine" available from Duodecim Medical Publications, Ltd, PO Box 713, 00101 Helsinki, Finland; e-mail: [info@ebm-guidelines.com](mailto:info@ebm-guidelines.com); Web site: [www.ebm-guidelines.com](http://www.ebm-guidelines.com).

#### AVAILABILITY OF COMPANION DOCUMENTS

None available

## PATIENT RESOURCES

None available

## NGC STATUS

This summary was completed by ECRI on December 17, 2002. The information was verified by the guideline developer on February 7, 2003. This NGC summary was updated by ECRI on October 4, 2004.

## COPYRIGHT STATEMENT

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Date Modified: 2/21/2005

The logo for FIRSTGOV, with "FIRST" in blue and "GOV" in red, and a small red star above the "I".

